REMARKS

Claims 6-10, 18-19, 22-23 and 25-26 are pending in the application.

Claims 6-8, 18-19, 22-23 and 25-26 stand rejected under 35 U.S.C. §112 as being non-enabled by Applicant's disclosure. Applicant disagrees and request reconsideration of such rejections.

The pending claims recite densities of memory cells in semiconductor memory devices. For instance, claims 6-8 recite 16M semiconductor memory devices having a total of from 16,000,000 to 17,000,000 functional and operably addressable memory cells occupying an area on a die having a total combined area which is no greater than $14mm^2$. Claims 18-19 recite 16M semiconductor devices having a total of from 16M to 17M functional and operably addressable memory cells arranged in multiple memory arrays, and wherein at least one of the memory arrays contains at least one area of 100 square microns of continuous die surface having at least 128 of the functional and operably addressable memory cells. Claims 22, 23, 25 and 26, like the above-discussed claims 18 and 19, recite circuitry having a memory array containing at least one area of 100 square microns and having at least 128 functional and operably addressable memory cells.

The Examiner contends that the memory densities recited in claims 6-8, 18-19, 22-23 and 25-26 are not enabled by Applicant's original disclosure. Specifically, the Examiner contends that Applicant's claims should include limitations to particular fabrication techniques disclosed

in Applicant's specification, in addition to the recited densities. Applicant disagrees. Applicant's disclosed fabrication techniques are merely exemplary processes which can be utilized to achieve particular densities. Nothing in Applicant's specification indicates that the scope of Applicant's invention is to be limited solely to the disclosed exemplary embodiments, and it is improper for the Examiner to force limitations of the particular disclosed embodiments into Applicant's claims.

Applicant's position is consistent with prior decisions of the Federal Circuit (*see, for example, SRI Int'l v. Matsushita Elec. Corp. of Am.*, 227 USPQ 577, 586 (Fed. Cir. 1985) (explaining that the scope of the claims in a patent is not limited by the best mode set forth in a patent specification), *and*, *United States v. Telectronics*, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988) (holding that a patent for a bone growth stimulator device which disclosed a range of currents for use with stainless steel electrodes was enabling for electrodes made from materials other than stainless steel because persons of ordinary skill in the art would know how to determine the appropriate current to use with the other materials). Applicant's position is also consistent with precedent from the Board of Patent Appeals and Interferences (*see, for example*, *Beale v. Schuman*, 212 USPQ 291 (BOPI. 1980), stating "An inventor is not required to limit his claims to a specific example or examples disclosed in his application.")

Under the authority of the above-discussed decisions of the Federal Circuit and the Board of Patent Appeals and Interferences, Applicant need not incorporate specific methodology of disclosed exemplary embodiments into the claims to meet the enablement requirement of §112. The Examiner's rejections based on §112 are therefore improper, and Applicant requests withdrawal of such rejections in the Examiner's next Action.

Claims 6-10, 18-19, 22-23 and 25-26 stand rejected as being unpatentable over Applicant's disclosure of the prior art in view of Denboer. Applicant disagrees and requests reconsideration of such rejections. Claims 6-10, 18-19, 22-23 and 25-26 all recite specific densities of circuitry which are neither shown nor suggested by either of the Examiner's cited references. Referring first to claim 6, such recites a total of from 16,000,000 to 17,000,000 functional and operably addressable memory cells occupying a total combined area which is no greater than $14mm^2$. Neither of the Examiner's cited references suggests or discloses such density of memory cells.

The Examiner indicates that Applicant's admitted prior art indicates that 16M circuitry is known. The Examiner further indicates that Applicant's disclosure teaches that one method of achieving the claim 6 recited density is through the use of at least five conductive layers. The Examiner's indications regarding Applicant's disclosure, while correct, fail to emphasize the important distinction that Applicant's disclosed

utilization of five conductive layers to form a recited 16M circuitry is not admitted prior art. The importance of this distinction is apparent in light the remainder of the Examiner's rejection. Specifically, the Examiner cites Denboer as teaching the use of five conductive layers, and contends that the claim 6 recited density is obvious in view of Denboer in combination with Applicant's teaching that five conductive layers can be utilized to form the claim 6 recited density. But Applicant's teaching of using five conductive layers to form a recited density is part of Applicant's invention, not part of the prior art. The Examiner is therefore attempting to utilize Applicant's own invention in combination with the prior art to support an argument for obviousness of the invention. Such is hindsight reconstruction, and is not an appropriate basis for a §103 rejection. (*See, e.g., Interconnect Planning Corp. v. Feil*, 227 USPQ 543, 551 (Fed. Cir. 1985); *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990) (explaining that hindsight reconstruction is an improper basis for rejection of a claim).)

When Applicant's inventive teaching of the utilization of five layers to form a claim 6 recited density is removed from amongst the Examiner's cited material, the remaining references do not, either alone or in combination, suggest or disclose the claim 6 recited density of semiconductor circuitry. Regardless of whether Denboer discloses five conductive layers, there is no suggestion within Denboer of any recognition that such five layers could be used in forming the claim 6

recited density. Also, Applicant's admitted prior contains no suggestion that five conductive layers could be utilized to form the claim 6 recited density. As neither cited reference suggest such use of five conductive layers, it is inconceivable that the references could, in combination, suggest the claim 6 recited density.

Applicant further notes that Denboer's teaching of five conductive layers, coupled with Denboer's lack of teaching of the claim 6 recited density, argues for the non-obviousness of Applicant's invention rather than evidencing obviousness. Specifically, Denboer had a tool at hand that could be utilized for achieving Applicant's recited invention. Further, as the Examiner has noted, it has been a goal in the semiconductor industry to maximize density of memory cells. Accordingly, had Denboer recognized that his disclosed methodology could be used to increase a density of memory cells, Denboer almost certainly would have mentioned such as an advantage of the disclosed methodology. However, Denboer does not mention such advantage. From this, it can be inferred that Denboer did not recognize that his disclosed methodology could be utilized to form circuitry encompassed by Applicant's claims. For at least this reason, the cited reference of Denboer argues for the non-obviousness of Applicant's invention, rather than the obviousness of such invention.

For the above-discussed reasons, claim 6 is allowable over the Examiner's cited references. Applicant therefore requests such allowance in the Examiner's next action.

Claims 7-10 depend from claim 6 and are therefore allowable for at least the reasons discussed above regarding claim 6. Applicant therefore requests allowance of claims 7-10 in the Examiner's next action.

Referring next to claim 18, such claim, like the above-discussed claim 6, recites a memory device having a particular density. In the case of claim 18, the density is recited as a memory array containing at least 100 square microns of continuous die surface and having at least 128 functional and operably addressable memory cells. Neither of the Examiner's cited references suggests such disclosed density. Accordingly, it is inconceivable that the references could, in combination suggest the recited the subject matter of claim 18. For at least this reason, claim 18 is allowable over the cited references, and Applicant requests such allowance in the Examiner's next action.

The Examiner's argument for obviousness of claim 18 is similar to that discussed above regarding claim 6. Specifically, the Examiner contends that Denboer discloses a method (utilization of five conductive layers) which Applicant describes as a procedure that can be utilized during formation of the recited densities. The Examiner then engages in hindsight reconstruction to indicate that Applicant's recited subject matter would be obvious in view of Denboer. However, for reasons

similar to those discussed above regarding claim 6, Denboer actually evidences the non-obviousness of claim 18, rather than the obviousness. Specifically, Denboer demonstrates that persons of ordinary skill in the art had access to at least some of the procedures described in Applicant's specification for achieving the recited densities, and did not recognize that such procedures would lead to the densities recited in Applicant's claims. For at this additional reason, claim 18 is allowable over Denboer.

Referring to claim 19, such depends from claim 18 and is therefore allowable for at least the reasons discussed above regarding claim 18.

Referring next to claim 22, such claim, like the above-discussed claim 18, recites circuitry having a particular density wherein a memory array contains 100 square microns of continuous die surface having at least 128 functional and operably addressable memory cells. Claim 22 is therefore allowable for reasons similar to those discussed above regarding claim 18, and Applicant requests such allowance in the Examiner's next Action.

Claims 23, 25 and 26 depend from claim 22 and are therefore allowable for the reasons discussed above regarding claim 22 as well as for their own recited features which are neither shown nor suggested by the cited art. Applicant therefore requests allowance of claims 23, 25 and 26 in the Examiner's next Action.

Claims 6-10, 18, 19, 22, 23, 25 and 26 are allowable for the reasons discussed above. Applicant therefore requests that the Examiner's next Action be formal allowance of claims 6-10, 18, 19, 22, 23, 25 and 26.

Respectfully submitted,

Dated: _____ By: _____

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